

Remarks

This amendment is in response to the Office Action dated July 8, 2004. After entry of this amendment, claims 1-21 remain pending in the application. Claims 1, 7, 12, 15, and 20 have been amended. Reconsideration of the application as amended is requested.

The drawings stand objected to because the Examiner noted that “a hot gas outlet 126” should be indicated on the line extending from the vortex tube 120 to the exhaust conduit 39 in Fig. 2. Fig. 2 has been amended and a replacement sheet is attached to this amendment. Reconsideration of the Examiner’s objection to the drawing is requested.

Claim 1 recites in part, “a vortex tube having an inlet in fluid communication with the exhaust gas recirculation conduit, a hot gas outlet, and a cold gas outlet in fluid communication with the high pressure portion of the intake conduit.” Independent claims 12 and 20 recite the cold exhaust flow from the outlet of the vortex tube being in fluid communication with the high pressure portion of the intake conduit. The cited references fail to disclose or suggest these limitations as recited in the independent claims.

Claims 1, 3, 4, 6, 10, 12, 14, 18, and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Medvedev *et al.* (Patent No. RU 20 90 774). Specifically, Medvedev *et al.* fails to disclose or suggest a cold gas outlet from a vortex tube being in fluid communication with a high pressure compressor outlet portion of the intake conduit as recited in amended claims 1, 12, and 20. Medvedev *et al.* teaches a vortex tube 20 with a cold outlet pipe connected to the suction side of the compressor. See the English abstract of the Russian patent (RU 20 90 774) and the drawings attached thereto. The exhaust flow exits from a cylinder 1 and travels through a valve 18 into a vortex tube 20. The hot flow is separated and flows through the hot outlet tube 21, through the ejector 11, and into the inlet of the turbine 9. The cold flow exits the vortex tube 20 through a cold outlet pipe connected to the inlet or suction side of the compressor 10. Medvedev *et al.* does not disclose or suggest delivering cold flow from the vortex tube 20 to the pressure side of an inlet conduit downstream of the compressor outlet as disclosed in the present invention and recited in the claims. Reconsideration and withdrawal of the Examiner’s rejection with respect to claims 1, 12, 20, and the claims depending therefrom are respectfully requested.

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings include changes to Fig. 2. This sheet replaces the originally filed sheet. No new matter has been added with this drawing change.

Attachment: Replacement sheets

Claims 2, 5, 11, 13, 19, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Medvedev *et al.* in view of Sheridan *et al.* (U.S. Patent No. 5,617,726). The Examiner admits that Medvedev *et al.* fails to disclose the location of the venturi and the exhaust gas recirculation valve being electronically controlled, an electronic control unit and at least one sensor, but asserts that Sheridan *et al.* teaches such limitations. Sheridan *et al.* teaches an EGR cooler utilizing a jacket water cooler, an air-to-air aftercooler, air-to-exhaust, air-to-charge, and jacket water-to-exhaust cooler as disclosed in column 2, beginning in line 42. The combination of Medvedev *et al.* and Sheridan *et al.* fails to disclose or suggest the invention as recited in independent claims 1, 12, and 20, therefore for similar reasons as described above, dependent claims 2, 5, 11, 13, 19, and 21 are in condition for allowance. Reconsideration and withdrawal of the Examiner's rejection with respect to these claims are respectfully requested.

Claims 7-9 and 15-17 stand rejected to, but are deemed allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claim 7 and 15 have been rewritten into independent form, therefore, claims 7-9 and 15-17 are in condition for allowance, notice of which is requested.

It is respectfully submitted that this Response traverses and overcomes all of the Examiner's objections and rejections to the application as originally filed. No new matter has been added. Reconsideration and allowance of the application are respectfully requested.

If the Examiner believes that prosecution of this present application can be expedited by way of an Examiner's amendment or further communication, the Examiner is invited to contact the applicants' attorney at the telephone number listed below.

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Respectfully submitted,

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